



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,990	03/12/2004	Wynn Peter Holloway	P451	8785
7590 11/01/2006				
PAUL E. MILLIKEN 9061 WALL STREET, NW MASSILLON, OH 44646-1676		EXAMINER CAJILIG, CHRISTINE T		
		ART UNIT 3637		PAPER NUMBER

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/799,990

Applicant(s)

HOLLOWAY, WYNN PETER

Examiner

Christine T. Cajilig

Art Unit

3637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3-7 and 11-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-7 and 11-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Claim Objections***

Claim 11 is objected to because of the following informalities: "theweb" is misspelled on line 2 of the claim. Appropriate correction is required.

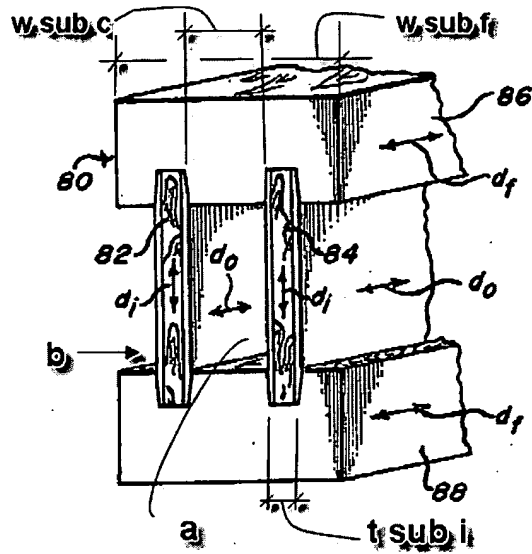
### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

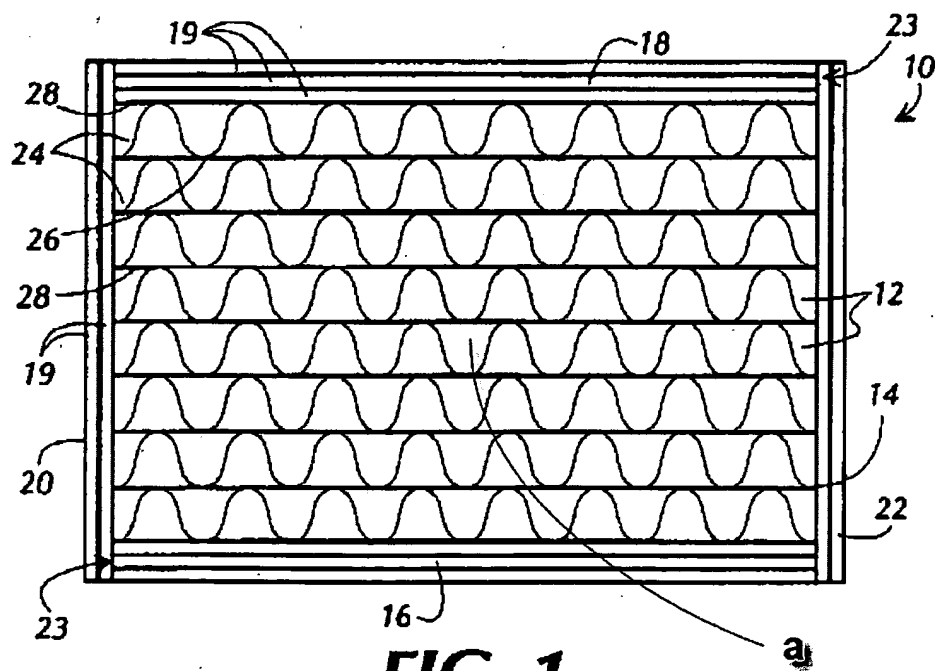
Claims 3-7, 11 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambuth (U.S. Patent No. 4,413,459) in view of Grigsby et al. (U.S. Patent No. 5,681,641).

Regarding claim 15, Lambuth in Figure 4 discloses a wooden composite I-beam (80) comprising upper and lower plywood (Col 6, Ln 3-6) flanges (86,88) interconnected by a web (b) comprising a pair of spaced apart planar side walls (82,84) having a cavity (a) therebetween, the side walls being formed from wood or wood derivative material (Col 2, Ln 41-42). Using the broadest definition, plywood is defined as " A structural material made of layers of wood glued together. " (The American Heritage® Concise Dictionary (1994). Retrieved 23 October 2006, from xreferplus. <http://www.xreferplus.com/entry/712538>). Lambuth does not disclose the cavity within the web being filled with a core of corrugated paper or corrugated cardboard, the core being adhered to the surrounding walls. However, Grigsby et al. in Figure 1 teaches a structural member having a central cavity comprising a core (a) of corrugated paper or corrugated cardboard (12), the core being adhered to the surrounding walls (16,18), (Col 6, Ln 22-24). Therefore, it would have been obvious to a person having ordinary skill in the arts at the time of the applicant's invention to modify the wooden composite beam of Lambuth to include a core of corrugated paper or corrugated cardboard, the core being adhered to the surrounding walls to provide further stiffness for the member using light-weight material as taught by Grigsby (Col 6, Ln 37-50).



**Fig. 4**

Lambuth (U.S. Patent No. 4,413,459)



**FIG. 1**

Grigsby et al. (U.S. Patent No. 5,681,641)

Regarding claim 3, Lambuth in Figure 4 discloses a wooden composite I-beam (80) comprising each plywood flange (86,88) that extends beyond the supporting web (b) on each side thereof by about 1/3 of its total width (Col 4, Ln 50-54).

Regarding claim 4, Lambuth in Figure 4 discloses a wooden composite I-beam (80) comprising side walls (82,84) that are made from one of plywood (Col 1, Ln 44-46).

Regarding claim 5, Lambuth in Figure 4 discloses a wooden composite I-beam (80) comprising side walls (82,84) that are formed from a lesser thickness ( $t_{sub i}$ ) material than the material of the flanges ( $w_{sub f}$ ).

Regarding claim 6, Lambuth does not disclose a core that comprises a plurality of layers of corrugated paper or cardboard which is each coated in a suitable adhesive and laminated together. However, Grigsby et al. in Figure 1 teaches a central cavity comprising a core (a) that comprises a plurality of layers of corrugated paper or cardboard (12) which are each coated in a suitable adhesive and laminated together (Col 6, Ln 16-19). Therefore, it would have been obvious to a person having ordinary skill in the arts at the time of the applicant's invention to modify the wooden composite beam of Lambuth to include a core that comprises a plurality of layers of corrugated paper or cardboard which are each coated in a suitable adhesive and laminated together to provide further stiffness for the member using light-weight material as taught by Grigsby (Col 6, Ln 37-50).

Regarding claim 7, Lambuth does not disclose the corrugations in the different layers of the core all run in the same direction. However, Grigsby et al. in Figure 1 teaches a central cavity comprising corrugations (12) in the different layers of the core

Art Unit: 3637

all running in the same direction. Therefore, it would have been obvious to a person having ordinary skill in the arts at the time of the applicant's invention to modify the wooden composite beam of Lambuth to include a core that comprises a plurality of layers of corrugated paper or cardboard which the corrugations in the different layers of the core all run in the same direction to provide further stiffness for the member using light-weight material as taught by Grigsby (Col 6, Ln 37-50).

Regarding claim 11, Lambuth in Figure 4 discloses a wooden composite I-beam (80) wherein the cavity (a) within the web has a transverse width ( $w_{sub c}$ ) of between 20-35%.

Regarding claim 16, Lambuth in Figure 4 discloses a wooden composite I-beam (80) wherein the plywood flanges comprise veneers of wood (Col 6, Ln 3-6) with each flange having the wood grain in the outer veneer of the plywood flanges (86,88) extending longitudinally of the beam ( $d_{sub f}$ ), (Col 1, Ln 61-64).

Regarding claim 17, Lambuth in Figure 4 discloses a wooden composite I-beam (80) wherein the cavity (a) within the web has a transverse width ( $w_{sub c}$ ) of between 25-35%.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lambuth ('459) in view of Grigsby et al. ('641) as applied to claim 2 above, and further in view of Pullam (U.S. Patent No. 5,930,968).

Regarding claim 12, Lambuth, modified by Grigsby et al., discloses the limitations as discussed above but does not disclose a plurality of dowels mounted on the web and

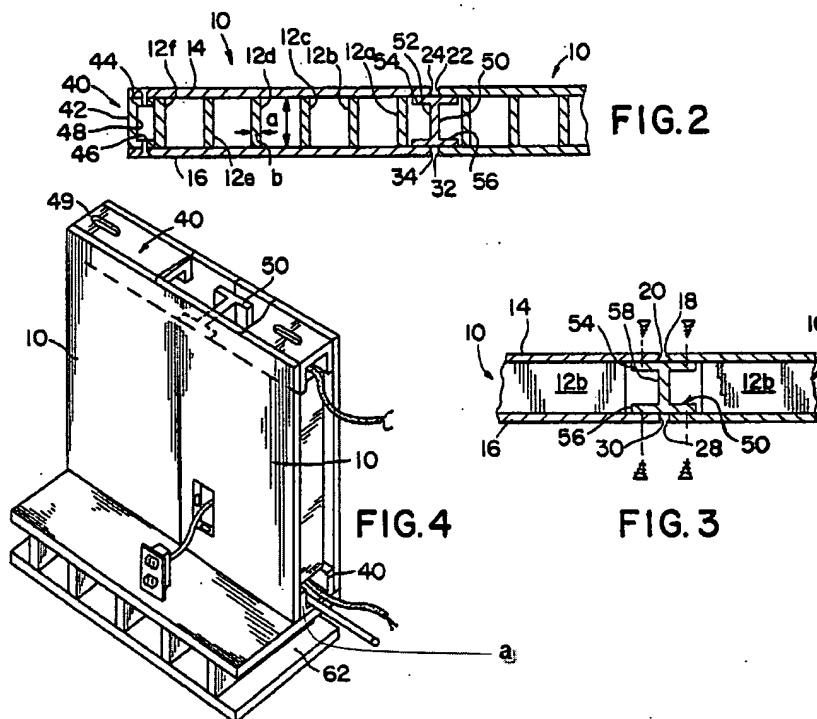
spaced longitudinally along its length. However, Pullam in Figures 1,2, and 5 teaches an I-beam (14) further including a plurality of dowels (42) mounted on the web (30) and spaced longitudinally along its length. Therefore, it would have been obvious to a person having ordinary skill in the arts at the time of the applicant's invention to modify the I beam of Lambuth already modified by Grigsby et al., to include a plurality of dowels mounted on the web and spaced longitudinally along its length to increase the structural integrity of the beam when used in a framing system by securing it to adjacent elements (Col 5, Ln 26-50) as taught by Pullam.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lambuth ('459) in view of Grigsby et al. ('641) as applied to claim 2 above, and further in view of Wright (U.S. Patent No. 4,896,469).

Regarding claim 13, Lambuth, modified by Grigsby et al., discloses the limitations as discussed above but does not disclose a building panel having a rectangular frame with both faces covered in board material, the frame comprising top and bottom rails which are joined together by a plurality of spaced apart wood composite I-beams as claimed in claim 2 extending there between. However, Wright in Figures 2 and 4 teaches a building panel (10) having a rectangular frame with both faces (14,16) covered in board material, the frame comprising top and bottom rails (40,a) which are joined together by a plurality of spaced apart wood composite I-beams (50). Therefore, it would have been obvious to a person having ordinary skill in the arts at the time of the applicant's invention to modify the I-beam of Lambuth already modified by Grigsby et



al., by using it in a building panel having a rectangular frame with both faces covered in board material, the frame comprising top and bottom rails which are joined together by a plurality of spaced apart wood composite as taught by Wright to construct a light-weight building panel.



Wright (U.S. Patent No. 4,896,469)

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lambuth ('459) in view of Grigsby et al. ('641) and Pullam ('968) as applied to claim 12 above, and further in view of Wright ('469).

Regarding claim 14, Lambuth, modified by Grigsby et al. and Pullam, discloses the limitations as discussed above but does not disclose a building panel having a rectangular frame with both faces covered in board material, the frame comprising top

and bottom rails which are joined together by a plurality of spaced apart wood composite beams extending there between, the beams inherently comprising outer beams with inner beams spaced therebetween depending on the length of the wall to be made, the outer beams being beams in accordance with claim 12. However, Wright in Figures 2 and 4 teaches a building panel (10) having a rectangular frame with both faces (14,16) covered in board material, the frame comprising top and bottom rails (40,a) which are joined together by a plurality of spaced apart wood composite I-beams (50), the beams comprising outer beams with inner beams spaced therebetween. Therefore, it would have been obvious to a person having ordinary skill in the arts at the time of the applicant's invention to modify the I beam of Lambuth already modified by Grigsby et al. and Pullam, to be included as the outer beams in a building panel having a rectangular frame with both faces covered in board material, the frame comprising top and bottom rails which are joined together by a plurality of spaced apart wood composite beams, the beams comprising outer beams with inner beams spaced therebetween as taught by Wright to construct a light-weight building panel where the outer beams can be attached to other adjacent panels when used in a multi-panel system.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bergeron (U.S. Patent No. 5,653,080) a composite beam with two webs forming a cavity; Lines (U.S. Patent No. 4,967,534) a composite I-beam with

multiple flange sizes; Strickland (U.S. Patent No. 4,333,289) a support structure with dowels aligned along its length; Pugh (U.S. Patent No. 3,634,990) a composite I-beam with central cavity; Ballard (U.S. Patent No. 4,580,380) a composite beam with filled interior; Romanoff (U.S. Patent No. 1,955,833), a building material made of multiple plies of corrugated cardboard.

### ***Response to Arguments***

Applicant's arguments filed on 9/22/06 have been fully considered but they are not persuasive. On page 2 of the Applicant's reply, the Applicant argues that "a man skilled in the art of wood composite beams would not readily review documents relating to wood substitutes." Examiner respectfully disagrees, and submits that one of ordinary skill in the arts would look to Grigsby et al. because Grigsby et al. is analogous art. With regard to analogous art, MPEP 2141.01(a) recites, "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." Grigsby et al. discloses a composite support structure, see Grigsby et al. Col 6, Ln 11-16. Applicant's field of endeavor is composite support structures. Thus, Grigsby is in Applicant's field of endeavor. Furthermore, Applicant's invention is directed to providing a support structure that has a corrugated cardboard core for providing strength/rigidity, see Specification Page 8, Ln 11-13. Similarly, Grigsby et al. is directed to providing a support structure with a corrugated cardboard core to provide strength. Thus, the problem addressed by

Art Unit: 3637

Grigsby et al. is pertinent to the problem being addressed by the Applicant's invention. Since Grigsby et al. is in the field of Applicant's endeavor and is pertinent to the problem solved by the Applicant, then, according to the MPEP, Grigsby et al. is analogous art, and the Examiner may rely on Grigsby et al. to reject Applicant's invention. See MPEP 2141.01 (a). The Examiner also directs the Applicant to page 1 of Grigsby et al., which shows that Grigsby et al. and the instant application are classified in the same class subclass (52/729.1). Furthermore, Grigsby et al. reference is indeed analogous to the Lambuth reference in that both Grigsby et al. and Lambuth deal with composite support members. For all of the above reasons, the Examiner maintains this rejection.

On pages 2 and 3 of the Applicant's reply, the Applicant argues that "the use of this [plywood] material is not disclosed in Lambuth or Grigsby." However, using the broadest definition, plywood is defined as "A structural material made of layers of wood glued together." ( The American Heritage® Concise Dictionary (1994). Retrieved 23 October 2006, from xreferplus. <http://www.xreferplus.com/entry/712538>), the flanges of Lambuth read on the plywood flanges of the Applicant's invention. For the above reason, the Examiner maintains this rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine T. Cajilig whose telephone number is (571) 272-8143. The examiner can normally be reached on Monday - Friday from 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on (571) 272-6867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CTC *CTC*  
October 27, 2006

LANNA MAI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

